

## Aerial Detection Survey – Update, August 19<sup>th</sup>, 2011

**Background:** Annual aerial detection surveys for tree injury and mortality have been conducted in California since 1994. This is an update of survey status for the 2011 survey season for August 19<sup>th</sup>, 2011.

**Objective:** Detect and map tree injury and mortality in California / USFS Region 5.

**Surveyors:** B. Oblinger and R. Noyes

**Date:** August 16<sup>th</sup> to 18<sup>st</sup>, 2011.

**Methodology:** Recently dead or injured trees (trees still retaining dead foliage) were mapped visually by surveyors using digital aerial sketch-mapping systems flying in a light fixed-wing aircraft approximately 1,000 feet above ground level. Surveyors recorded number and species of dead trees and type of damage (mortality, defoliation, branch flagging) at each mapped location.

**Details:**

- Almost 4 million acres were flown over portions of 8 counties; Mono, Tuolumne, Mariposa, Madera, Merced, Fresno, Tulare and Kern Counties. Portions of the Stanislaus, Sierra, and Sequoia National Forests, as well as Yosemite, Sequoia and Kings Canyon National Parks were surveyed. See Figure 1.

- An overall increase, by about 30% compared to last year, in the acres with ponderosa pine mortality due to western pine beetle was detected. See Figure 2. Lodgepole pine mortality due to mountain pine beetle was mapped throughout the area surveyed, although less frequently than last year. Acres of white and red fir mortality attributed to fir engraver dramatically decreased to 1/3 of last year's acreage. Defoliation of lodgepole pine due to lodgepole needleminer was detected on Yosemite NP and remained similar to last year's acreage. Branch flagging due to Cytospora canker on true fir was detected at various locations in the Sequoia and Sierra NFs. See Figure 3.

- Survey data, including locations of mortality and flight-lines are available for viewing in Google Earth at:

<http://www.fs.fed.us/r5/spf/fhp/fhm/aerial/2011/kmz/index.shtml>

Figure 1. Flown area and mapped tree damage

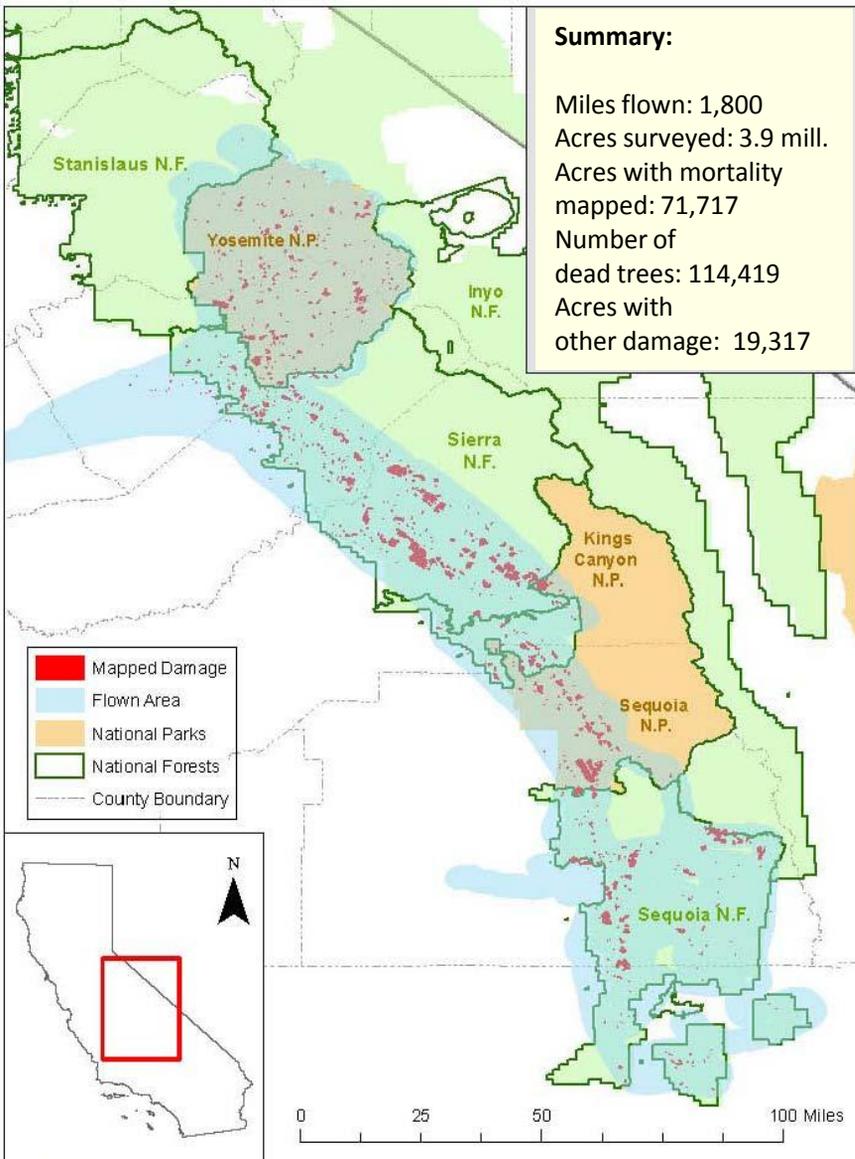


Figure 2. Ponderosa pine mortality due to western pine beetle on the Sierra National Forest.

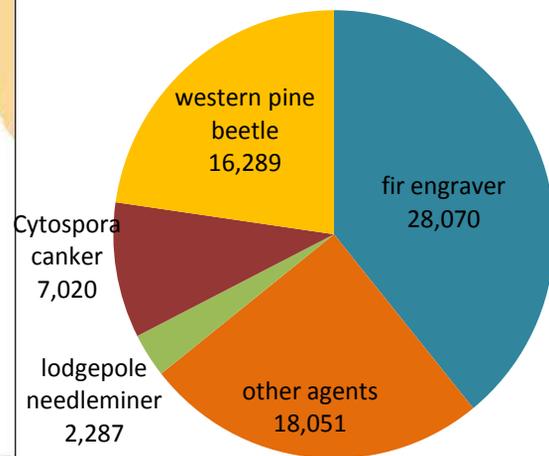


Figure 3. Agents mapped (in acres)

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